

SUB  
F1  
20. An isolated protein comprising the amino acid sequence of SEQ ID NO:30, or a part thereof.

21. An isolated nucleic acid molecule encoding the protein according to claim 17.

22. The isolated nucleic acid according to claim 21, comprising a nucleic acid sequence selected from the group consisting of SEQ ID NO:8; SEQ ID NO:9; SEQ ID NO:10; SEQ ID NO:11; SEQ ID NO:12; SEQ ID NO:13; and SEQ ID NO:14.

SUB  
F2  
23. The isolated nucleic acid according to claim 21, which (a) comprises SEQ ID NO:29, or parts thereof, or (b) hybridizes, under stringent conditions, with a nucleotide sequence according to (a).

24. A method for identifying a cDNA clone which comprises an isolated nucleic acid sequence according to claim 21, the method comprising:

(a) obtain a radioactively or nonradioactively labeled oligonucleotide molecule having a sequence selected from the group consisting of SEQ ID NO:8; SEQ ID NO:9; SEQ ID NO:10; SEQ ID NO:11; SEQ ID NO:12; SEQ ID NO:13; and SEQ ID NO:14, or parts thereof; and

(b) screening a cDNA library prepared from *Dictuocaulus viviparus* using the labeled oligonucleotide molecule.

25. A method for identifying a cDNA clone which comprises an isolated nucleic acid sequence according to claim 21, the method comprising:

(a) obtain a polymerase chain reaction primer having a sequence selected from the group consisting of SEQ ID NO:8; SEQ ID NO:9; SEQ ID NO:10; SEQ ID NO:11; SEQ ID NO:12; SEQ ID NO:13; and SEQ ID NO:14, or parts thereof; and

(b) screening a cDNA library or RNAs prepared from *Dictuocaulus viviparus* using the primer.

26. A method for producing a recombinant polypeptide molecule, the method comprising the steps of (a) expressing the cDNA clone obtained according to claim 24, and (b) purifying the expressed polypeptide molecule.

27. A method for detecting antibodies which bind to *Dictuocaulus viviparus* antigens, comprising using the a protein according to claim 17 as an adsorbed antigen in an ELISA test for antibody detection.

28. The method according to claim 27, wherein the quantity of the antibodies is determined using a quantitative ELISA.

29. A vaccine comprising a suitable amount of a protein according to claim 17, and a suitable adjuvant or carrier.

30. A method for immunizing cattle against *Dictuocaulus viviparus* comprising administering to a cattle in need thereof a vaccine according to claim 29.

31. A diagnostic kit comprising a protein according to claim 17.

32. A diagnostic kit comprising a polynucleotide sequence according to claim 21.

33. A recombinant vector comprising the nucleic acid molecule of claim 21.

34. A host cell comprising the vector of claim 33.